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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
WALICKA, MALGORZATA A	

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/724,571	ANDERSON ET AL.	
	Examiner	Art Unit	
	Malgorzata A. Walicka	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *78-81,83-85,132 and 135* is/are pending in the application.

4a) Of the above claim(s) *79,80 and 132* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *78, 81, 83-85 and 135* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The Amendment to claims and specification filed on Sept. 20, 2004 are acknowledged. Claims 1-77, 86-131 and 133-134 were previously canceled; claim 82 is currently canceled. Claims 78, 81, 83-84 and 135 are amended. Claims 78-81, 83-85, 132 and 135 are pending; claims 79, 80 and 132 are withdrawn as directed to the non-elected invention. Claims 78, 81, 83-85 and 135 are currently under examination.

DETAILED ACTION

1. Objections

1.1. Specification

In description of Fig. 5 please replace the word "contains" in the 8th line with "encodes".

1.2. Claims

Objection to claim 82 is moot because the claim has been canceled.

Objections to claims 78, 83, 84 and 135 are withdrawn, because the claims have been amended.

2. Rejections

2.2. 35 USC, section 112, second paragraph

Rejection of claims 78 and 84 as confusing is withdrawn, because the claims have been amended.

The amended claims 81 and 135 recite the term "said subject" that is lacking an antecedent in the claims.

2.3. 35 USC, section 112, first paragraph

2.3.1. Lack of written description

The amended claims 78, 81, 83-85 and 135 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 78 is directed to a genus of methods using a genus of beta secretases comprising a segment of any beta secretase protein wherein the segment lacks the signal sequence (amino acid residues 1-22 with respect to SEQ ID NO: 2) and putative proregion (amino acid residues 23-45 with respect to SEQ ID NO: 2).

The term amino acid residues X-Y with respect to SEQ ID NO: 2 is exemplary. The claim is lacking the structural description of the beta secretase to be used in the method. The claim uses any mature form of any beta secretase as well as any beta-secretase which contains its own signal sequence and proregion, because such enzyme contains its own segment that lacks proregions and signal sequence, thus, the genus of the beta-secretases to be used in the claimed method encompasses any beta secretase, segment of any beta secretase lacking signal sequence and proregion, as well as any protein comprising said segment as long as said protein retains a beta-

secretase activity. Applicants disclose several species of the genus, for example SEQ ID NO: 2, 43, 75, and 58. This is, however, not sufficient to identify the entire genus of beta secretases to be used in the claim. Sequences of other beta-secretases than SEQ ID NO: 2 and it mature and truncated forms, human or from other animals, as well as their man-made equivalents are not disclosed by Applicants. Thus, one skilled in the relevant art is not convinced that the inventor(s), at the time the application was filed, had possession of the invention as broadly claimed by the claim. Dependent claims 81, 83-85 and 135 are included in the rejection because they do not correct the language of the base claim.

On page 8 of the remarks Applicants emphasize that the method claimed is not limited to substrates of SEQ ID NO: 104 and 83, as the examiner indicated, but any substrate having a beta-secretase cleavage site can be used.

Applicants' argument has been fully considered but is found not persuasive for the following reasons. In the claims the enzyme or the substrate has to be novel and nonobvious so that the method is patentable. Claim 78 in its current form is directed to any beta secretase and any substrate, thus if the claim is going to be limited to any substrate the novel and nonobvious enzyme has to be explicitly characterized in the claim and vice versa. Furthermore, at this stage of the prosecution the claims are examined according to Applicants election of species. During the interview on August 9, 2002 the examiner requested election of species of beta-secretase and species of substrate to be used in the method. In response to this requirement, filed on September 11, 2002, Applicants elected beta-secretase of SEQ ID NO: 75, and as the species of

substrate SEQ ID NO: 104, 83, and 97. In the supplemental response to restriction requirement filed on Jan. 21, 2003 as paper No. 14, Applicants elected only two species of the beta-secretase substrate, i.e., SEQ ID NO: 104 and SEQ ID No: 83.

Upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Claim 81 is directed to a genus of methods which use a mouse bearing a transgene which is a member of a genus of DNA molecules encoding beta-APPs including a mutant variants thereof. The mouse has a condition characterized by Aβ peptide amyloid deposit. The methods select the test compound of claim 78 as a therapeutic agent if following its administration the mouse cognitive ability are improved or reduction of plaque burden takes place.

This *in vivo* method is not described in the specification and original claims in such a way that would indicate the Applicants were in possession of the claimed invention at the time the application was filed. The issue will be addressed bellow in section A. and B.

Section A

On page 50 of the specification, Part B of USES, Methods of Screening Beta-secretase Inhibitors, Applicants list genera of chemicals such as synthetic drugs,

antibodies and peptides, which have an inhibitory effect on the enzyme. Than Applicants describe in general terms, or in another words in a prophetic form, the assays of *in vitro* selecting inhibitor and selecting inhibitor in cell (*in vitro* cell culture) expressing the enzyme and APP. Selected inhibiting compounds can finally be tested for prophylactic and therapeutic efficacy in transgenic animals predisposed to an amyloid disease. Furthermore, Applicants, in a form of incorporation by reference, characterize such transgenic animals obtained by others (page 54). There is no proof that Applicants themselves reduced the theoretically described method to practice. Although, for example, "the practitioner is directed to a specific peptide substrate/inhibitor sequences, such as P10-P4'staD→V"; see page 55, Applicants themselves have not demonstrated that the use of this compound as claimed in claim 81 results in maintaining or improving cognitive ability of transgenic mice or that the compound reduces the plaque burden, or even lack of such effects.

Applicants do not provide the description of claimed invention that would convince one of skills in the art that Applicants were in possession of the claimed invention at the time the application was filed.

In their current Remarks Applicants write on page 10, third paragraph, "Further, Morgan et al ('A beta peptide vaccination prevents memory loss in an animal model of Alzheimer 's disease,' *Nature 408* (6815): 982-5 (2000) and Janus et al. ('A beta peptide immunization reduces behavioural impairment and plaques in a model of Alzheimer's disease,' *Nature,* 408 (68150: 979-82 (2000)) published after the priority of the instant

application, **confirm Applicants' discovery** [emphasis added] that a reduction in amyloid plaque formation is correlated with improved cognition in a mouse model."

This comment by Applicants has no support in the specification and Applicants are silent as to where else "Applicants' discovery" is published. The specification does not contain any data or information on Applicants' measurement of the plaque level in any animal model before and after administration of an *in vitro* selected inhibitor. There is not data, or information on such data, on improved cognition in a mouse model. **The disclosure does not provide a proof that Applicants did discover** "that a reduction in amyloid plaque formation is correlated with improved cognition in a mouse model."

Section B.

Claims 81, 83 and 135 are rejected for lack of written description of the genus of mice to be used in the method. The mice are bearing a transgenes which are members of a genus of DNA molecules encoding beta-APPs including mutant variants thereof. The mouse has a condition characterized by Aβ peptide amyloid deposit. The claims encompass a broad scope of transgenic mice. Incorporation by reference the mice disclosed by articles and patents on page 54 is insufficient for identifying characteristics for selecting more transgenic mice that "have a conditions characterized by Aβ peptide amyloid deposit" as recited by the claims. The claims cover transgenic mice having any beta-APP gene known. No structure of identifying the whole genus of beta-APP genes is provided by the specification and by the prior art incorporated by reference. Thus, one skilled in the art is not convinced that applicants were in possession of the claimed invention at the time the application was filed.

In addition, claim 135 is drawn to the method of using a transgenic mouse comprising a transgene encoding any beta-secretase. Applicants do not teach the DNA molecule that was used to obtain such transgenic animal. Applicants argue in their

Remarks that documents incorporated by reference (page 54 of the specification) teach the relevant transgenic mouse. Although it is true that the prior art teaches mice comprising transgenes encoding APP, none of the patents or articles teaches a mice comprising a transgene encoding APP **and** a transgene coding any beta secretase. The particular species of transgenic mice used in the method of claim 135 is not described. Thus, claim 135 suffers from lack of written description of the claimed invention and one skilled in the art is not convinced that Applicants were in possession of the claimed invention at the time the application was filed.

2.3.2. Scope of enablement

Rejection of claim 82 is moot because the claim has been canceled.

The amended claim 78, 84 and claim 85 are rejected, because the specification, while being enabling for screening of beta secretase inhibitor, wherein the beta secretase is set forth by SEQ ID NO: 75, as well as other sequences taught by Applicants, does not reasonably provide enablement for any beta secretase. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims; see the above rejection for lack of written description.

The scope of the claims must bear a reasonable correlation with the scope of enablement (In re Fisher, 166 USPQ 19 24 (CCPA 1970)). Otherwise, undue

experimentation is necessary to make the claimed invention. Factors to be considered in determining whether undue experimentation is required, are summarized *In re* Wands [858 F.2d 731, 8 USPQ 2nd 1400 (Fed. Cir. 1988)]. The Wands factors are: (a) the nature of the invention, (b) the breadth of the claim, (c) the state of the prior art, (d) the relative skill of those in the art, (e) the predictability of the art, (f) the presence or absence of working example, (g) the amount of direction or guidance presented, (h) the quantity of experimentation necessary.

The nature and breath of the claimed invention encompasses the use of any beta secretase from any natural source or man made and any substrate in testing chemical compounds for the enzyme inhibitors.

While methods of gene cloning and gene structure manipulations, expression of the genes and testing the expressed proteins for enzyme activities are well known in the relevant art, and skills of the artisans highly developed, the scope of the claim involves experimentation that is not routine. While enablement is not precluded by the necessity for routine screening, if a large amount of screening for a protein having beta secretase activity is required, Applicants are required to provide a guidance with respect to the structure of the enzyme to be used. Providing human beta secretasae of SEQ ID NO:2 and its truncated forms is not satisfactory in providing such guidance. Without a further guidance on the part of Applicants with regards to the structure of the beta secretase to be used experimentation imposed on those skilled in the art has low probability of success and is improperly extensive and undue.

Claims 81, 83 and 135 are rejected, because the specification, while being enabling for *in vitro* screening of beta secretase inhibitor, does not reasonably provide enablement for *in vivo* testing the test compound. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims; see als the above rejction for lack of written descripton.

The claims are directed to the method of *in vitro* and *in vivo* testing a chemical compound for its ability to inhibit beta-secretase and thus being a therapeutic agent candidate.

In vivo testing, performed on a mouse bearing a transgene which encodes a β-APP or its variant or a mouse bearing a transgene which encodes a β-APP or its variant and transgene encoding any beta-secretase, uses as a proof of *in vivo* inhibiting Aβ production an improvement of cognitive ability or reduced plaque burden in said mouse.

The specification fails to disclose the steps of the method of claims, particularly,

1) how to obtain a transgenic mouse containing any β-APP gene or how to obtain a transgenic mouse containing any β-APP gene and any β-secretase gene of many known or to be identified (claim 135), and

2) the way the tested compound is to be administered to the animal.

Therefore, undue experimentation is necessary to make and use the claimed invention.

The nature and breadth of the claimed invention encompasses a large number of methods using a transgenic mice containing transgene which encodes any β-APP or its

variant or a DNA molecule that encodes any human beta-amyloid precursor protein **and** any transgene encoding any beta-secretase. Alo, in the method a large number of chemical compounds that were identified *in vitro* as inhibitors is to be administered to the transgenic animal. Although the studies of Alzheimer disease relatively well developed and the skill of artisans high, it is out of routine experimentation

a) to obtain a transgenic mouse containing any β-APP gene and any β-secretase gene of many known or to be identified (claim 135), and

b) to develop a way of administration to said animal of any chemical compound that can be considered a candidate inhibitor of β-secretase in vivo; said way includes as a prerequisite finding the proper dose, frequency and time of administration to avoid lethal effects and diminish side effects.

The disclosure is silent about steps a) and b). The only guidance regarding the transgenic mice (step a)) is for selecting a mouse having a conditions characterized by Aß deposits, which is the mice of the prior art. Lack of guidance on the part of Applicants, regarding the experimental mouse, lack of guidance regarding the DNA sequences encoding APP protein, beta-secretase encoding sequences to be transfected to mouse as well as lack of guidance regarding a chemical compound to be used and lack of teaching the details of the compound administration, forces one skilled in the art to o perform experimentation that is improperly extensive and undue.

Traversing this rejection in part concerning enablement of the way of administration of any chemical compound that can be considered a candidate inhibitor of β-secretase page 9, line 4 of their current response,

Applicants write,

> "For example, the specification teaches that 'routes of administration and dosage ranges can be determined empirically, using methods well known in the art' and refers to a publication by Benet et al., Pharmacokinetics in Good & Gilman's The Pharmacological basis of Therapeutics, Ninth Edition, as applied to standard animal models, such as a transgenic PDAPP animal model. See specification, page 54, lines 26-31. Based on this disclosure, and the knowledge of the skilled artisan, the selection of the proper solvent, dose, frequency and time of administration and toxicity profiles can be routinely determined."

Applicants' argument is found not persuasive for the following reasons. None who is skilled in the art considers the selection of dose, frequency, time of administration and toxicity profiles of chemicals "a routine" when the treatment of a disease is in a standard animal model. For example, if a compound is a peptidic inhibitor as the one of SEQ ID NO: 72 it will be digested in the alimentary track of the animal, degraded in the blood and inactivated by antibodies before it reaches the beta-secretase. Although routine methods are used for determining the different components of efficient treatment with a compound that is an *in vitro* inhibitor, such determination as a whole involves lengthy experimentation which often has a low probability of success.

Regarding the transgenic mouse, Applicants indicate in their Remarks of Sept. 20, 2004 that in addition to prior art mentioned in the specification, i.e., Games et al, '95, Struchler-Pierrat et al. '97 and US Patents 5,811,633; 5,604,131 and 5,877,399 and others, also articles attached to the current Amendment as Exhibits teach the appropriate transgenic mice. Although it is true that this prior art teaches mice comprising transgenes encoding APP none of the patents or article teaches a mice comprising a transgene encoding APP **and** a transgene coding any beta secretase and none of applicants' claims are limited to the use of the transgenic mice taught in the prior art. Thus, the transgenic animal used in the methods of claims 81, 83 and 135 are not enabled in their entire scope.

2.4. *35 USC section 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 78 and 84 are rejected under 35 U.S.C. 102(b) as being unpatentable over International Publication Number WO96/40885 (WO85) issued December 19, 1996.

Claim 78 is directed to a method of screening for inhibitors of Aβ production comprising contacting a polypeptide comprising a segment of any beta secretase

protein wherein the segment lacks the signal sequence and putative proregion, said polypeptide having beta secretase activity and being purified to apparent homogeneity with a beta-secretase substrate and a test compound, and selecting the test compound as capable of inhibiting Aβ production if said β-secretase polypeptide exhibits less β-secretase activity in the presence of said compound than in the absence of said compound. As indicated in the above rejection for lack of written description, limitations of the enzyme to be used in the method of claim 78 read on any beta- secretase.

WO85 discloses a method for identifying inhibitors of β-secretase, see the abstract, claim 23, and the method described on page 41, in which peptide comprising Val-Asn-Leu-Asp, i.e., SEQ ID NO: 104 of the instant application, is used as a substrate (Fig. 4 of WO85). WO85 uses partially purified β-secretase. However the activity of beta-secretase is the characteristic feature of the protein and being purified to the apparent homogeneity is not, unless the inventors disclose a new method specifically directed to purification of β-secretase, this, however, is not the case. Thus WO85 discloses the method of claim 78.

Regarding claim 84 the WO85 discloses on page 41 use of substrate named MBP-C125wt and MPB-C125sw, which consist of 125 C-terminal amino acids of the wild type human APP and Swedish mutation APP in assay for beta secretase inhibitors.

Thus WO85 discloses the method of claim 78 and 84.

2.5. *35 USC section 103*

Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over International Publication Number WO96/40885 (WO85), issued December 19, 1996 and further in view of International Publication Number WO 98/37226 (WO26) issued 27 August 1998 (both publications enclosed in the 103 rejection of May 1, 2003).

The claim is directed to a method of screening for inhibitors of Aβ production a comprising contacting a polypeptide comprising a segment of any beta secretase protein wherein the segment lacks the signal sequence and putative proregion having beta secretase activity and purified to apparent homogeneity with a beta-secretase substrate set forth in SEQ ID NO: 83 or MBP-C125sw and a test compound, and selecting the test compound as capable of inhibiting Aβ production if said β-secretase polypeptide exhibits less β-secretase activity in the presence of said compound than in the absence of said compound. As indicated in the above rejection for lack of written description limitations of the enzyme to be used in the method of claim 78 read on any beta- secretase.

WO85 discloses a method for identifying inhibitors of β-secretase, see the abstract and the method described on page 41. The WO85 document teaches the use of substrate named MBP-C125wt and MPB-C125sw, which consist of 125 C-terminal amino acids of the wild type human APP and Swedish mutation APP in the assay. WO85 uses partially purified β-secretase.

WO85 does not disclose:

(1) the β-secretase purified to the apparent homogeneity;

(2) β-secretase substrate set forth by SEQ ID NO: 83

Regarding point (1), the fact that β-secretase is purified to the apparent homogeneity is not a characteristic feature of the enzyme as such, unless the inventors disclose a new method specifically directed to purification of β-secretase, this, however, is not the case.

Regarding point (2), i.e., the substrate recited by claim 85 of the instant application, WO26 discloses compositions for detecting protease activity in biological samples, and, on page 28, and in claim 4 on page 77, presents as a substrate consisting of the amino acid sequence SEVNLDAEF described as "Swedish KM/NL amyloid". This sequence is identical to SEQ ID NO: 83 of the instant application, thus, WO26 anticipates SEQ ID NO: 83 of the instant application.

It would have been obvious to one having ordinary skill in the art at the time of invention to have the method disclose in WO85 and modify it by using the purified human β-secretase and the substrate of SEQ ID NO: 83 as disclosed by WO26.

The motivation is also provided by the WO85: "β-secretase enzyme would permit chemical modeling of a critical event in the pathology of Alzheimer's disease and would allow the screening of compounds to determine their ability to inhibit β-secretase activity" (page 2 line 2), and further, on page 2 line 9, "In particular, it would be desirable to utilize such an enzyme (referred to hereinafter as β-secretase) in methods for screening candidate drug for the ability to inhibit the activity of β-secretase in *in vitro* systems."

The motivation regarding the use as a substrate "Swedish KM/NL amyloid" sequence is also provided by WO85: "A mutation of particular interest is designated the 'Swedish' mutation where the normal Lys-Met residues at positions 595 and 596 of the 695 form are replaced by Asn-Leu. This mutation is located directly upstream of the normal β-secretase cleavage site of APP, which occurs between residues 596 and 597 of the 695 form" (page 9, line 23).

The probability of success is 100%, because the probability of identifying any β-secretase inhibitor using a modified method of WO85 is 100%.

Thus, the claimed invention was within the ordinary skill in the art to make and use at the time it was made, and was, as a whole, *prima facie* obvious.

2.6. Nonstatutory Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 78 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,329,163. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the instant application as a generic claim and would be anticipated by the method of claim 1of the patent. An obviousness –type double patenting is appropriate where the conflicting claims are not identical, but an examined claim is either anticipated by, or would have been obvious over the reference claim (s). See e.g. *In re Berg*, 140 F.3d 1428, 46USPQ2d1226 (Fed.Cir. 1998); *In re Boodman*, 11F.3 d 1046, 29USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F. 2d 887, 225 USPO 645 (Fed. Cir. 1985).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 78 of the application is generic to all that is recited in claim 1 of U.S. Patent No. 6,329,163. That is, claim 1 of the patent falls entirely within the scope of claim 78 of the instant application, or, in other words, claim 78 of the instant application is anticipated by claim 1 of the patent. Specifically, the method of claim 1 of the patent is a species of the genus of methods claim 78 of the application.

Claim 84 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 11 of U.S. Patent No. 6,329,163. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 84 of the instant application as a generic claim would be anticipated by method of claim 11 of the patent. An obviousness –type double patenting is appropriate where the conflicting claims are not identical, but an examined claim is either anticipated by, or would have been obvious over the reference claim (s). See e.g. *In re Berg*, 140 F.3d 1428, 46USPQ2d1226 (Fed.Cir. 1998); *In re Boodman*, 11F.3 d 1046, 29USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F. 2d 887, 225 USPO 645 (Fed. Cir. 1985).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 84 of the application is generic to all that is recited in claim 11 of U.S. Patent No. 6,329,163. That is, claim 11 of the patent falls entirely within the scope of claim 84 of the instant application, or, in other words, claim 84 of the instant application is anticipated by claim 11 of the patent. Specifically, the method of claim 11 that uses as asubstrate MBP-C125 of the patent is a species of the generic method of claim 84 of the instant application.

3. Conclusion

No claim is in condition for allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malgorzata A. Walicka, Ph.D., whose telephone number is (571) 272-0944. The examiner can normally be reached Monday-Friday from 10:00 a.m. to 4:30 p.m. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, Ph.D. can be reached on (571) 272-1600. The fax phone number for this Group is (703) 305-3014. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionists whose telephone number is (703) 872-9306.

Malgorzata A. Walicka, Ph.D.
Patent Examiner
Art Unit 1652

REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1600